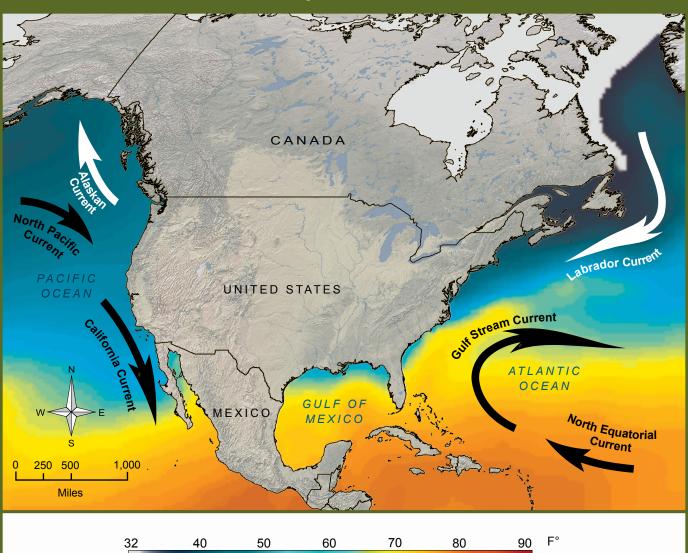
### VA #1 Sea Surface Temperatures—North America



Source: National Oceanic and Atmospheric Administration (NOAA)/National Environmental Satellite, Data, and Information Service (NESDIS)

10

15.5

21.1

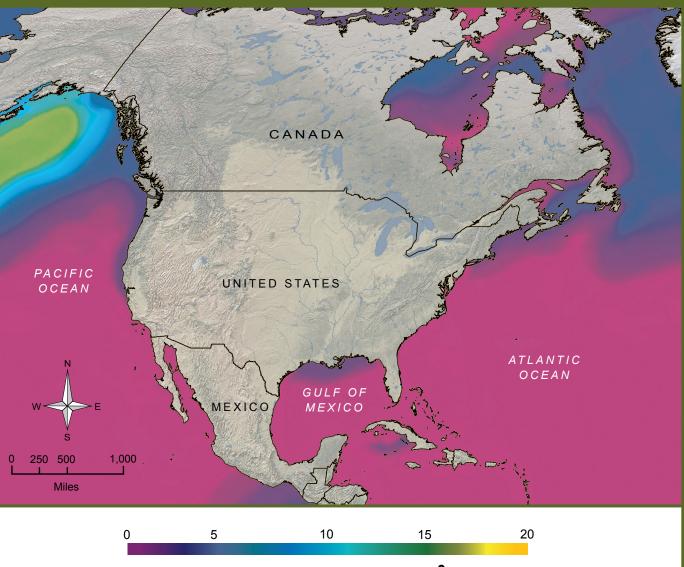
26.7

32.2 C°

0

4.4

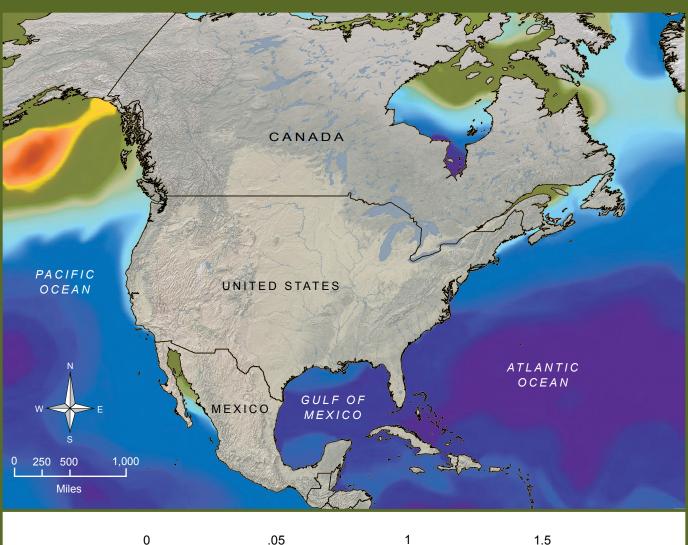
### **VA #2 Ocean Nitrates—North America**



Sea Surface Nitrate [ mmol N m<sup>-3</sup> ]

Source: National Oceanic and Atmospheric Administration (NOAA)/National Environmental Satellite, Data, and Information Service (NESDIS)

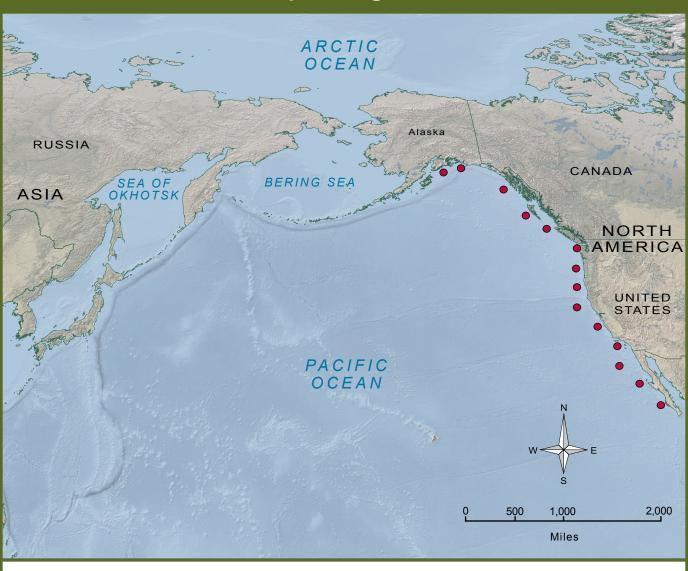
## VA #3 Ocean Phosphates—North America



Sea Surface Phosphate [mmol P m<sup>-3</sup>]

Source: National Oceanic and Atmospheric Administration (NOAA)/National Environmental Satellite, Data, and Information Service (NESDIS)

## **VA #4 Pacific Ocean Upwellings**



Locations of ocean upwellings

# **VA #5 Kelp Forests**



Distribution of kelp forests

## **VA #6 Historical Distribution of Sea Otters**



Historical distribution of sea otters

# **VA #7 Phenotype Variation in Rock Pocket Mice**



Light and dark rock pocket mice (Chaetodipus intermedius) from the Pinacate area of Arizona on light and dark substrate (rocks).

### **VA #8 Predation and Guppy Body Size**

#### **Pool 1–Killifish and Guppies**

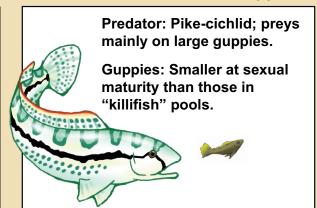


Predator: Killifish; preys mainly on small guppies.



Guppies: Larger at sexual maturity than in "pike-cichlid" pools.

#### Pool 2-Pike-cichlid and Guppies

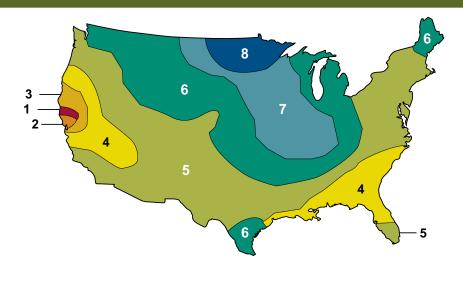


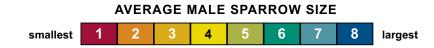
Pool 3–Killifish with no Guppies

Pool with killifish but no guppies prior to transplant.

Experimental transplant of guppies

## **VA #9 Map of Sparrow Body Size Variations**



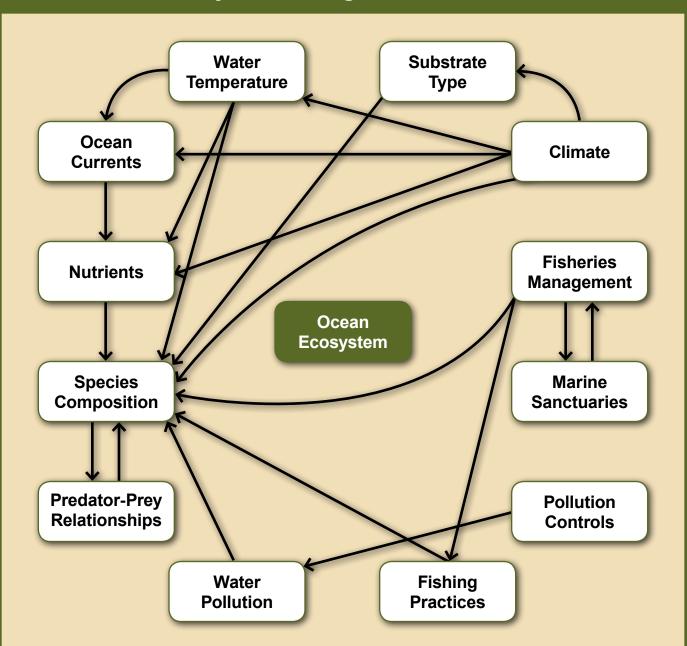


### **Sparrow Size**

This map shows how body size of house sparrows varies across North America according to climate. Larger sparrows live in colder areas because their smaller surface-area-to-volume ratios help them retain heat.

As this map shows, sparrows in colder places tend to grow larger than sparrows in warmer locales. These differences likely represent microevolutionary change, meaning that populations descended from the same ancestors display different average phenotypes.

## **VA #10 Ocean Systems Diagram**



### **VA #11 Current Sea Otter Distribution**



- Current distribution of sea otters
  - Successful translocations

# **VA #12 Effects of Human Activities on Sea Otters**

Human Activity	Effects on the Survival of Sea Otters	Adaptations That Might Increase Sea Otter Survival
Habitat degradation		
Water pollution		
Boating (Trauma from human activity)		
Legislation		